

WHAT IS CLAIMED IS:

1. A stepping motor comprising:
a ring-shaped stator core having a plurality of pole teeth erected from an inner circumferential edge portion;
a coil winding wound around the pole teeth; and
a terminal pin part to which a terminal end of the coil winding is wound around,
wherein the terminal pin part is integrally formed and extended from the stator core and an entire surface of at least the terminal pin part of the stator core is covered with an insulating layer.
2. The stepping motor according to claim 1, wherein at least an outer surface of the pole teeth of the stator core is covered with the insulating layer, and the coil winding is directly wound around the insulating layer on the pole teeth.
3. The stepping motor according to claim 1, wherein the entire surface of the stator core is covered with the insulating layer.
4. The stepping motor according to claim 1, wherein the terminal pin part integrally formed with the stator core is formed so that its tip end side is wider or thicker than its base end side.

5. A stepping motor comprising:

a ring-shaped stator core having a plurality of pole teeth erected from an inner circumferential edge portion; and

a coil winding wound around the pole teeth,

wherein the stator core is covered with an insulating layer on at least the entire surface of the pole teeth and the coil winding is directly wound on the insulating layer around the pole teeth.

6. The stepping motor according to claim 5, wherein the entire surface of the stator core is covered with the insulating layer.

7. The stepping motor according to claim 5, further comprising a terminal pin part which is integrally formed with the stator core and is formed so that its tip end side is wider or thicker than its base end side.

8. A manufacturing method for a stepping motor comprising:

forming a stator core and a terminal pin part integrally formed with the stator core;

covering an entire surface of at least the terminal pin part of the stator core with an insulating layer; and

forming a coil winding around pole teeth of the stator core and winding a terminal end of the coil winding around the terminal pin part.

9. The manufacturing method for a stepping motor according to claim 8, further comprising covering at least an outside surface of the pole teeth of the stator

core with the insulating layer, and directly winding the coil winding on the insulating layer around the pole teeth.

10. The manufacturing method for a stepping motor according to claim 9, further comprising covering the entire surface of the stator core including the terminal pin part which is integrally formed at an outer edge of the stator core with the insulating layer.

11. The manufacturing method for a stepping motor according to claim 8, further comprising forming the insulating layer by coating.

12. The manufacturing method for a stepping motor according to claim 8, further comprising integrally forming the terminal pin part with the stator core and forming so that its tip end side is wider than its base end side.

13. A manufacturing method for a stepping motor comprising:
forming a stator core;
covering an entire surface of at least pole teeth of the stator core with an insulating layer; and
forming a coil winding directly on the insulating layer around the pole teeth of the stator core.

14. The manufacturing method for a stepping motor according to claim 13, further comprising covering the entire surface of the stator core with the insulating layer.

15. The manufacturing method for a stepping motor according to claim 13, further comprising forming the insulating layer by coating.

16. The manufacturing method for a stepping motor according to claim 13, further comprising integrally forming a terminal pin part with the stator core and forming so that its tip end side is wider than its base end side.

17. The stepping motor according to claim 4, wherein the terminal pin part is formed in a straight bar shape.

18. The stepping motor according to claim 7, wherein the terminal pin part is formed in a straight bar shape.

19. The stepping motor according to claim 4, wherein the terminal pin part includes a side face that is slanted towards the tip end side from the base end side.

20. The stepping motor according to claim 7, wherein the terminal pin part includes a side face that is slanted towards the tip end side from the base end side.